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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/646,692

08/25/2003

Heng Chung Wu

2019-0211P

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03/21/2005

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EXAMINER

NGUYEN, HOAN C

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,692

Applicant(s)

WU, HENG CHUNG

Examiner

HOAN C. NGUYEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3, 5-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group B (claims 1-3, 5-14 and 16-20; Fig. 5) in Paper filed on 1/10/2004 is acknowledged.

Applicant's arguments regarding the restriction requirement have been considered; however, the traversal was on the grounds that there is no serious burden on the Examiner in examining all of claims 1-20 together. There are two different light sources to turn on or off at different position of light guides in Species B. There is only one light source as Fig. 4 shown (species A), therefore, turning on or off the light source at different position of light guides cannot be performed in the same way.

Therefore, the requirement is deemed proper and is considered to be final.

Claims 4 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions and species, there being no allowable generic or linking claim. Therefore, ONLY claims 1-3, 5-14 and 16-20 are pending in the elected Species.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 5-6, 9-12 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. (US 20030160919A1).

In regard to claims, 1 and 9, Suzuki et al. teach (Fig. 6) a reversible liquid crystal display (LCD) comprising:

- a transmissive liquid crystal module 28;
- a pair of light-guiding plates 35/38 respectively disposed on two sides of the transmissive liquid crystal module, and
- at least one light 36/39 for supplying light to the pair of light-guiding plates.

Claim 5:

- an image reversing unit for reversing images of the liquid crystal module up-to-down, or right-to-left in response to the LCD being reversed.

wherein

Claim 6:

- the reversible LCD comprises two lights respectively corresponding to the pair of light-guiding plates.

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Claim 10:

- the reversible LCD is assembled on a unit of electronic equipment with a liftable lid (mobile phone).

In regard to claim 11, Suzuki et al. teach (Fig. 6) a unit of electronic equipment with a liftable lid and a reversible liquid crystal display (LCD), comprising:

- a display panel, having a reversible LCD assembled therein, wherein the reversible LCD comprises:
 - a transmissive liquid crystal module 28;
 - a pair of light-guiding plates 35/38 respectively disposed on two sides of the transmissive liquid crystal module; and
 - at least one light 36/39 for supplying light to the pair of light-guiding plates;
- an operating portion, having a plurality of operating buttons assembled thereon; and a connecting portion, connecting the display panel to the operating portion (the operating portion and the connecting portion are inherently for mobile telephone).

Claim 18:

- an image reversing unit for reversing images of the liquid crystal module up-to-down, or right-to-left in response to the LCD being reversed.

wherein

Claim 12:

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- the unit of electronic equipment is cell phone, notebook, or personal digital assistant.

Claim 19:

- the display panel comprises two lights 36/39 respectively corresponding to the pair of light-guiding plates

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-3 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 20030160919A1) as applied to claims 1, 5-6, 9-12 and 18-19 in view of Tai et al. (US 5359691A).

Suzuki et al. fail to disclose the reversible liquid crystal display, wherein the pair of light-guiding plates are made of transparent material, and formed with a plurality of micro-rhombuses for reflecting light.

Tai et al. teach (Figs. 1-4) a liquid crystal display with light-guiding plate made of transparent material and formed with a plurality of micro-rhombuses (convex pyramid-featured underside 47, as illustrated in FIG. 3) for enhancing reflecting light.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the reversible liquid crystal display as Suzuki et al. disclosed with light-guiding plate made of transparent material and formed with a plurality of micro-rhombuses for enhancing reflecting light (col. 5 lines 30-32) as taught by Tai et al.

3. Claims 8, 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 20030160919A1) as applied to claims 1, 5-6, 9-12 and 18-19 in view of Hijii (US20020119802A1).

Suzuki et al. fail to disclose the reversible liquid crystal display with sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion.

Hijii teaches the folding cellular phone having LVD with sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion for saving energy (paragraph 31st).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the reversible liquid crystal display as Suzuki et al. disclosed with sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion for saving energy (paragraph 31st) as taught by Hijii.

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4. Claims 7-8, 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US20030160919A1) as applied to claims 1, 5-6, 9-12 and 18-19 in view of Shima (US6839101B2).

Suzuki et al. fail to disclose the reversible liquid crystal display comprising further (a) a controlling unit for turning the two lights on or off, thereby turning the front light of the LCD on and turning the back light of the LCD off when turning over the LCD; (b) a sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion.

Shima teaches (Figs. 4-5) the reversible liquid crystal display comprising further (a) a controlling unit for turning the two lights on or off, thereby turning the front light of the LCD on and turning the back light of the LCD off when turning over the LCD as Fig. 5 shown; (b) a sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the reversible liquid crystal display as Suzuki et al. disclosed with (a) a controlling unit for turning the two lights on or off, thereby turning the front light of the LCD on and turning the back light of the LCD off when turning over the LCD as Fig. 5 shown; (b) a sensor for sensing reversal of the LCD wherein the sensor is mounted on the operating portion or the connecting portion for capable of two type of display so that the user can view proper display images on the respective sides. Thus, the display contents on the LCD can be checked even when the cellular phone is folded, which spares users the trouble of unfolding the

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cellular phone only for checking information such as the charge indication of the battery or current time (col. 8 lines 35-42), as taught by Shima.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hama (US 20020045467 A1) discloses a folding mobile communication device has a storage unit for storing at least one piece of call-destination information, each piece of call-destination information specifying a possible destination of a telephone call.

Chuang (US 20040080924 A1) discloses a light module and a flat panel display including the light module. The light module includes a printed circuit board having a first surface and a second surface; a first light source disposed on the first surface of the printed circuit board; a second light source disposed on the second surface of the printed circuit board; and a light guiding plate disposed adjacent to the printed circuit board, for guiding light emitted from the first and/or the second light sources to a first surface of the light guiding plate.

Katahira (US 20030063456 A1) discloses a light guide plate 122 shaped like a wedge whose thickness gradually decreases from the left end in the figure to the right end, and a light guide plate 142 is shaped like a wedge whose thickness gradually decreases from the right end in the figure to the left end. Since the wedges of the light guide plates 122 and 142 are arranged in a staggered manner, the thickness of the entire liquid crystal display device 100 can be reduced.

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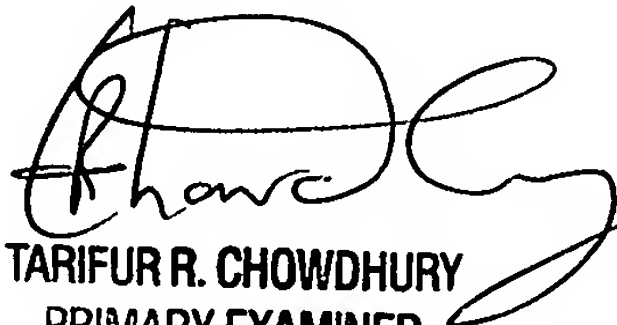
Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H. Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN
Examiner
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TARIFUR R. CHOWDHURY
PRIMARY EXAMINER

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